

**Work Order ID 66411**

Page 1

Monday, February 14, 2011 4:41:12 PM

Item ID: D206-642-441

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 2/15/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 3/1/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan: *MF*Date: *11-02-14*

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

Draw Nbr

Revision Nbr

D2650

Rev F

0.00

100



DOCUMENT CONTROL

0.00

DC

Memo

Document Control

Photocopy bluefile and create labels per PPP D206-642-441 CHG002

*N/Ardy*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

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Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

110

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Deburr Fwd edge of tube

2-Remove ridge on inside of Fwd edge of tube as per Dwg D2650

3-Weld Fwd Cap as per Dwg D2650. Use aluminum rod. Grind D2647 to fit as required.

A/R ☐ Aluminum Rod ☒ M116577 / M11385

BE 11/03/01

4-Grind weld flush to cap on top surface only.

BE 11/03/06

5-Cut aft end 138.60" from front of tube

6-Drill pilot holes using drill jig DT8025 &amp; DT8169 (A,B,C,D). Open to Ø0.312".

7-Drill holes for wearplates using DT 8028-7. Open to Ø 0.297".

8-Open using #6 Drill Bit

9-Open holes for Tow Ring to Ø0.625" as per Dwg D2650, D2650-7 Drilling Detail

BE 11/03/01

10-Remove inner indexing ridge on aft end of skidtube as per Dwg D2650

11-Deburr and Blow out all chips from inside the tube

W/O:		WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

[illegible]

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**Accept**

**Setup Start**

**Stop**

**Cust Item ID:**[illegible]

**Customer:**

**Reference:**

Run Start

**Stop**

### Operation Description

## Set Up/ Run Hours

## Tool ID

Tool #

### Plan Code

**Accept  
Qty**

Reject  
QtyReject  
Number

**Insp.  
Stamp**

115

QC5- Inspect part completeness to step on W/O

0.00

QC

## Memo

0.00

## Quality Control

116

QC10- Inspect visual per QSI004- ground welds

0.00

QC

## Memo

0.00

## Quality Control

120

Chemical Conversion Coat per QSI005 4.1

0.00

HandFinish

## Memo

0.00

## Hand Finishing

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

Reference:

Approvals:

Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

DP 11-3-41

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

140

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Open holes to finished size as per Dwg D2650, D2650-7 Drilling Detail  
(without cutting fluid)

2-Countersink crossbolt spacer holes as per Dwg D2650(without cutting fluid)

3-Deburr. Blow out chips. Grind alodine off around crossbolt spacer.

4-Bond D2654-7 web in place as per QSI 015Ensure holes line upAllow 12 Hrs.  
cure time before cutting☐Start Date: 11-3-4 ☐Time: ☐ 2 PM☐Finish Date: 11-3-7 ☐Time: ☐ 8 AMA/R ☐ Sikaflex-291 ☐ M116040 ☐Sikaflex expiry date: ☐ 11-9-30

BE 11/03/04

BB

11/03/04

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Start Date: 2/15/2011 Start Qty: 1.00

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Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

150



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00



11-3-7

160



Skidtubes

Skidtubes

Skidtubes

Memo

0.00

0.00

1-Prep per QSI 005 and Insert cross bolt spacers D2649. Weld as per QSI 004 and Dwg D2650. Remember to back drill each hole to 0.25" before welding the other side. Use aluminum rod.

A/R Aluminum Rod

M111385

BE 11/03/07

2-Grind welds flush as per Dwg D2650.

DP/

3-Counterbore 5/16" x 0.750" deep as per Dwg D2650 Deburr

BE 11/03/08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**Work Order ID 66411**

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Item ID: D206-642-441

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 2/15/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 3/1/2011 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170  Skidtubes	HandFinishing	0.00				1	0		BE 11/03/09
Skidtubes	Memo Install D2680-041 Nut Plate as per Dwg D2650	0.00							
180  QC	QC10- Inspect visual per QSI004- ground welds	0.00							
Quality Control	Memo	0.00							
190  QC	QC5- Inspect part completeness to step on W/O	0.00							
Quality Control	Memo	0.00							

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**Work Order ID 66411**

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Setup Start

Revision ID:

Stop

Item Name: Replacement Skidtube

Start Date: 2/15/2011 Start Qty: 1.00

Cust Item ID:

Required Date: 3/1/2011 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

200

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

Brush alodine tube on crossbolt spacer area, do not acid etch, do not dip tube in tank.

1 BL 11-3-11

205

Spray Painting per QSI005 4.2

0.00



SprayPaint

Memo

0.00

Spray Painting

SPRAY PAINT DELFLEET BLUE  
PRIMER : B 115967  
DELFLEET BLUE B 115985  
CLEAR DELFLEET: B 11711311 03 10 11  
P40

206

QC14- Inspect Spray Paint

0.00



QC

Memo

0.00

Quality Control

Sulorling

P40

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D206-642-441 PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☒ No ☐ DQA: / Date: 110328

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR: <u>66411</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
11-03-17	205	due to product line of delFleet changing to lower VOC's, supplier misinformed, and sent wrong clear	11-03-18	scuff + re-clear  - update QSR Flattening binder F3118 + 2.1 voc clear F3921 1 to 1 mixture F3118/F3921 mixture 3 parts to 1 part F3210 hardener + 1/2 part F3330 thinner  ACCEPTABLE PER ATTACHED EMAIL.	IT 11-03-17	G 11/03/18	11-03-18 Q1042	G 11/03/18

NOTE: Date & initial all entries



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Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

230

0.00



HandFinishing

HandFinish

Memo

0.00

Hand Finishing

1-Install inserts & wearpads as per dwg D2922. Use a drop of Sikaflex inside insert holes before installing wearpad/wearplate.

A/R ☐ Sikaflex-291 ☐ 11116040

C Sikaflex expiry date: ☐ 11108

2-Install O-Rings D2651-3 on plugs D2651-1 with Petroleum Jelly and install plugs as per Dwg D2650. Clean excess adhesive

3-Install MS27039-4-06 Screw as per DEO 9153

4-Inspect for foreign object per QSI 024

5-Install D2646 Aft Cap and seal with SikaflexClean excess adhesive

A/R ☐ Sikaflex-291 ☐ 11116040

Sikaflex expiry date: ☐ 11108

6-Wing Walk as per Dwg D2650-7 and QSI 005 4.4

Batch: 111160402

1 0 11/03/21

W/O:		WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

240

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

8 u/03/21

⑩

Quality Control

250

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D206-642-441

Location: \_\_\_\_\_  
PPP Rev: PPP

66409

11/3/21

260

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

11/3/21

Quality Control

K A-03-21  
C

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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**NOTE:** Date & initial all entries

Monday, February 14, 2011 3:56:01 PM

[illegible]**Required Date: 3/1/2011**

**Required Qty: 1.00**

**Comments:** IPP Rev:H 05.10.11 Added D3429-1 per CHG002 KJ/CP/JLM  
IPP Rev:I 08-05-01 add QC3 DD verified by:EC  
IPP Rev:J 08-09-29 revF as per dwg DD verified by: EC IPP rev K  
10.09.27 SS washers for wearplates EC verified by: DD

AL54-1032-130	Purchased	No	230	Each	1,255.000	60	60
							<u>22 11/03/21</u>
Insert							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>	
PKG11	1120	1115502	ALS7-1032-130 x100
114723	120		
116864	1000		
ST282	96		
110511	10		
115911	86		
ST381	39		
114654	39		

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100711

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 525

11/11

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST300	24	1116805
113288	24	
ST356	6	
115622	6	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Monday, February 14, 2011 3:56:01 PM

Work Order ID: 66411

Parent Item: D206-642-441

Parent Item Name: Replacement Skidtube

Start Date: 2/15/2011

Required Date: 3/1/2011

Start Qty: 1.00

Required Qty: 1.00

CCR264SS3-3

Purchased

No

170

Each

154.0000

2

2



Cherry Rivet

Location

Loc Qty

Loc Code

ST311

154

112314

4

113539

44

113973

106



m117086 BR 4/03/09  
(x2)

CR3212-4-03

Purchased

No

230

Each

1,863.000

2

2



Cherry Rivet

Location

Loc Qty

Loc Code

ST311

1863

110153

35

111359

5

112314

2

114436

448

114450

31

114859

1342



BE 11/03/08

D2620

Manufactured

No

110

Each

19.0000

1

1



Skidtube, 206 Skidtube

Location

Loc Qty

Loc Code

LG

19

62684

7

64784

12



DP 11-3-1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Monday, February 14, 2011 3:56:02 PM

Work Order ID: 66411

Parent Item: D206-642-441

Parent Item Name: Replacement Skidtube

Start Date: 2/15/2011

Required Date: 3/1/2011

Start Qty: 1.00

Required Qty: 1.00

D2646

Manufactured No

110

Each

76.0000

1

1



Aft Cap



HL 11/03/12

Location

Loc Qty

Loc Code

FP-4

6

B 66401

X1

57332

6

FP6

16

52663

3

62678

12

63633

1

Return 2010

54

62678

54

ATTN: BLUE

D2647

Manufactured No

140

Each

55.0000

1

1



Cap



BE 11/03/01

Location

Loc Qty

Loc Code

FP

55

55352

55

D2649

Manufactured No

170

Each

243.0000

23

23



Cross Bolt Spacer



BE 11/03/01

Location

Loc Qty

Loc Code

LG

243

58545

2

60652

4

61496

2

62889

11

63359

3

65317

221

23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Monday, February 14, 2011 3:56:02 PM

Work Order ID: 66411

Parent Item: D206-642-441

Parent Item Name: Replacement Skidtube

Start Date: 2/15/2011

Required Date: 3/1/2011

Start Qty: 1.00

Required Qty: 1.00

D2651-1

Manufactured

No.

230

Each

511.0000

22

22



Plug



11/03/21

Location

Loc Qty

Loc Code

FP

189

51530

152

62638

37

fpa

322

53349

205

57869

117

x 22

ATTN: BLUE

D2651-3

Manufactured

No

230

Each

404.0000

22

22



O-Ring



11/03/21

Location

Loc Qty

Loc Code

FP

404

46114

12

61962

392

x 22

D2654-7

Manufactured

No

160

Each

0.0000

1



Web

D2680-041

Manufactured

No

170

Each

18.0000

1



Nut Plate



11-3-4

Location

Loc Qty

Loc Code

ST021

18

55366

18

1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Monday, February 14, 2011 3:56:02 PM

Work Order ID: 66411

Parent Item: D206-642-441



Parent Item Name: Replacement Skidtube

Start Date: 2/15/2011

Required Date: 3/1/2011



Start Qty: 1.00

Required Qty: 1.00

D3535-15	Manufactured	No	230	Each	3.0000	1	1
							yl 11/03/21
Wearshoe							



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP18	3	
63569	3	yl

D3535-23	Manufactured	No	230	Each	5.0000	1	1
							yl 11/03/21
Wearshoe							



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP021	5	
63571	4	yl

D3535-37	Manufactured	No	230	Each	7.0000	1	1
							yl 11/03/21
Wearshoe							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP	7	
56101	1	yl
62716	6	

D3536-15	Manufactured	No	230	Each	10.0000	1	1
							yl 11/03/21
Gasket							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP	1	
56055	1	
FP011	8	
63568	8	
FP11	1	yl
59238	1	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Monday, February 14, 2011 3:56:02 PM

Work Order ID: 66411

Parent Item: D206-642-441



Parent Item Name: Replacement Skidtube

Start Date: 2/15/2011

Required Date: 3/1/2011



Start Qty: 1.00

Required Qty: 1.00

D3536-23      Manufactured      No      230      Each      11.0000      1      1  
  ul ul03121  
 Gasket



Location      Loc Qty      Loc Code

FP011      1  
 63570      1  
 ST      10  
 66240      10

D3536-37      Manufactured      No      230      Each      12.0000      1      1  
  ul ul03121  
 Gasket



Location      Loc Qty      Loc Code

FP      12  
 63237      12  
 (B56102)

D3537-1      Manufactured      No      230      Each      39.0000      6      6  
  ul ul03121  
 Wearpad

Location      Loc Qty      Loc Code

FP017      39  
 65057      39  
 X6

D3537-3      Manufactured      No      230      Each      30.0000      1      1  
  ul ul03121  
 Wearpad

Location      Loc Qty      Loc Code

FP17      30  
 65929      30  
 X1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Monday, February 14, 2011 3:56:02 PM

Work Order ID: 66411

Parent Item: D206-642-441

Parent Item Name: Replacement Skidtube

Start Date: 2/15/2011

Required Date: 3/1/2011

Start Qty: 1.00

Required Qty: 1.00

MS27039-1-08 Purchased No

230

Each

1,222.000

2

2



Handwritten: 11/03/21

Screw

Location

Loc Qty

Loc Code

ST291

1222

110835

367

115108

855

Handwritten: x2

MS27039-4-06 Purchased No

230

Each

91.0000

1

1



Handwritten: 11/03/21

Screw

Location

Loc Qty

Loc Code

ST292

91

109061

4

115460

87

Handwritten: x1

MS27039C1-08 Purchased No

230

Each

959.0000

60

60



Handwritten: 11/03/21

SCREW

Location

Loc Qty

Loc Code

FP

63

115336

63

ST293

896

115589

347

116022

148

116373

400

19185

1

Handwritten: x60

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Page 8

Monday, February 14, 2011 3:56:02 PM

Work Order ID: 66411



Parent Item: D206-642-441



Parent Item Name: Replacement Skidtube

Start Date: 2/15/2011

Required Date: 3/1/2011

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0332R

Purchased

No

230

Each

3,062.000

60

60



90

4/6 3/21

Washer

Location

Loc Qty

Loc Code

ST297

3062

115000

125

115698

35

116025

132

116304

2770

760

Monday, February 14, 2011 3:56:02 PM

Shop Packet Print

Page 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

QTY -1	QTY -3	QTY -5	QTY -7	PART NUMBER	DESCRIPTION
X				D2650-1	SKIDTUBE ASSEMBLY
	X			D2650-3	SKIDTUBE ASSEMBLY
		X		D2650-5	SKIDTUBE ASSEMBLY
			X	D2650-7	SKIDTUBE ASSEMBLY
1	1	1	1	D2600-1-160	EXTRUSION
1				D2654-1	WEB
	1			D2654-3	WEB
		1		D2654-5	WEB
			1	D2654-7	WEB
1	1	1	1	D2646	AFT CAP
1	1	1	1	D2647	CAP
17	18	19	23	D2649	CROSS BOLT SPACER
16	18	14	22	D2651-1	PLUG
16	18	14	22	D2651-3	O-RING
1	1	1	1	D2680-041	NUT PLATE
2	2			D3286-1	DOUBLER
2	2			D3286-3	STUD
42	44	54	60	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, ALS7-1032-130)
2	2	2	2	AN960JD10L	WASHER
2	2	2	2	CCR264SS3-3	RIVET
2	2	2	2	CR3212-4-03	RIVET
2	2	2	2	MS27039-1-08	SCREW
1	1	1	1	MS27039-4-06	SCREW
1	1	1	1	AN960JD416	WASHER
52	52			CR3212-4-04	RIVET

F

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: -CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
-POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3  
-BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:  
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015
- 11) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE)
- 12) DRILL Ø0.297 FOR ALS7-1032-130 INSERTS USING TEMPLATE DT8056-1 ON -1 TUBE, DT8056-3 ON -3 TUBE, DT8056-5 ON -5 TUBE, AND DT8056-7 ON -7 TUBE. INSTALL INSERTS AFTER FINISH.
- 13) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

F	DRAWING UPDATED TO CURRENT STANDARDS. SHT 6 ADDED. ALL SECTION AND DETAIL VIEWS TRANSFERRED TO SHT 6. SHT 1 IN PL PART D2649 QTY UPDATED. SHT 6 SECT C-C GRIND INSTRUCTIONS DELETED FROM NOTE 7 (SEE NCR 239).	AJS	08.08.08
E	REMOVE CBORE, CHG DRILL, ADD CHAMFER	CP	06.03.30
D	REDRAW; INCCRP. DEO9136/9153/9163 MOD GROUND HANDLING ON D2650-1/-3	CP	04.05.17
C	CHANGE HOLE PATTERN AND FRONT END	DS	97.10.29
B	AS MANUFACTURED CHANGES	DS	97.06.26
A	NEW ISSUE	DS	97.03.25
REV.	DESCRIPTION	BY	DATE
DESIGN	DS	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 1 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
DATE	08.08.08	COPYRIGHT © 1997 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

RELEASED  
08.07.23/17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

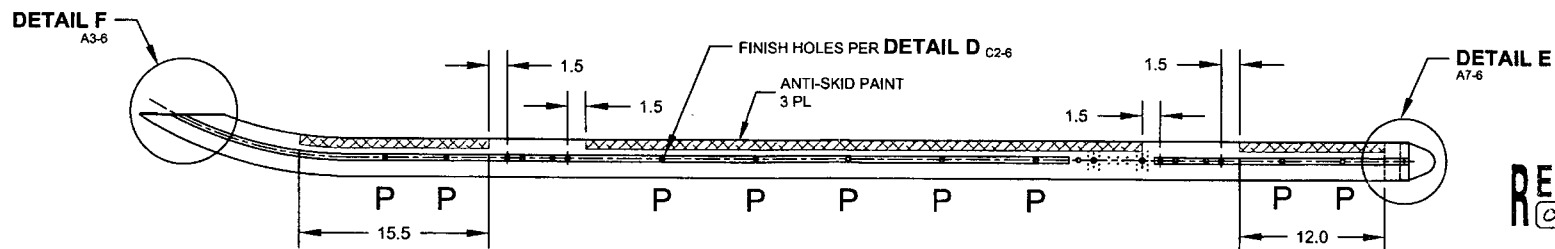
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_





NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





RELEASED  
05 07 22

DESIGN	DS	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 3 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
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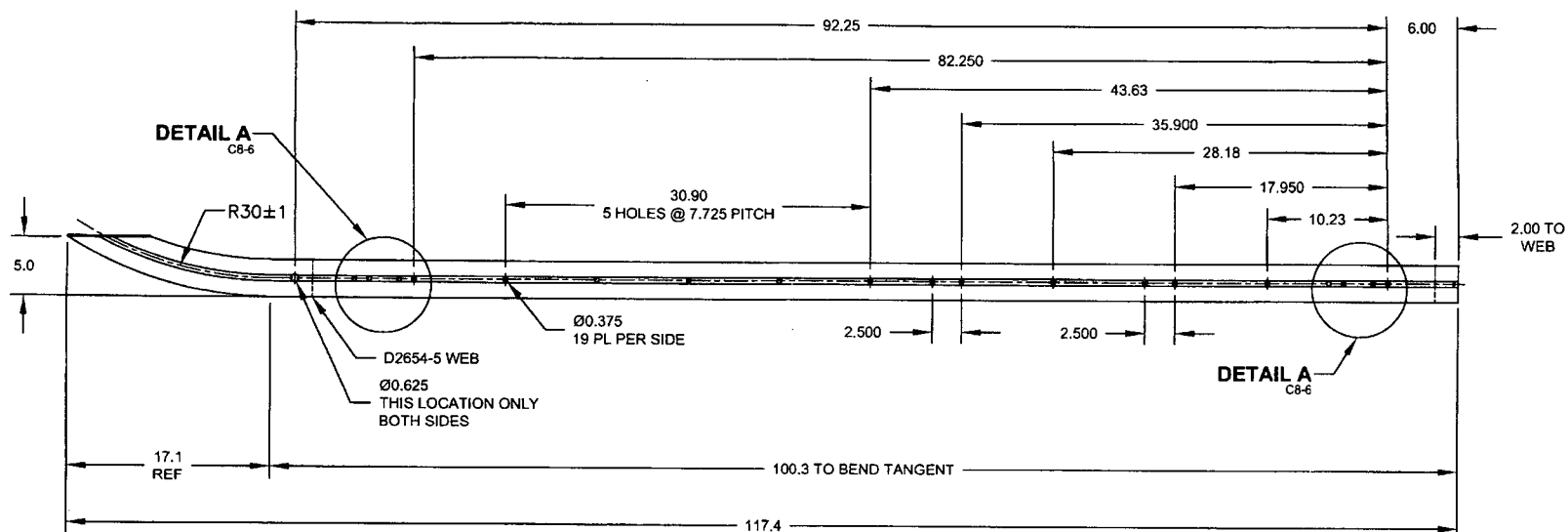
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

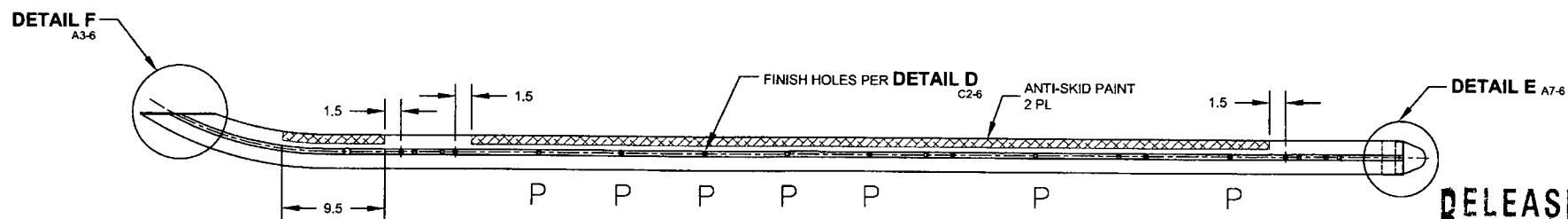
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D2650-5 BENDING/DRILLING DETAIL**



**D2650-5 ASSEMBLY/FINISHING DETAIL**

DESIGN	DS	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 4 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
DATE	08.08.08	<small>COPYRIGHT © 1997 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC</small>	

**RELEASED**  
08 09 22 11/17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



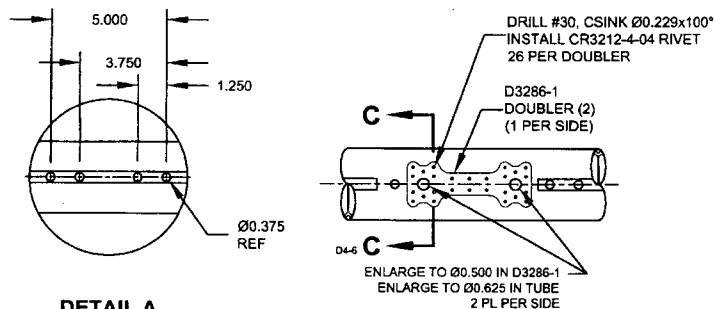
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

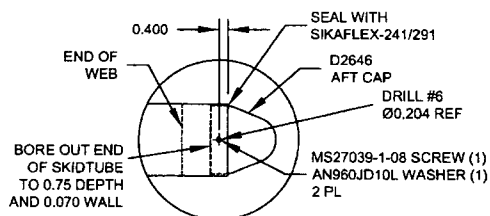
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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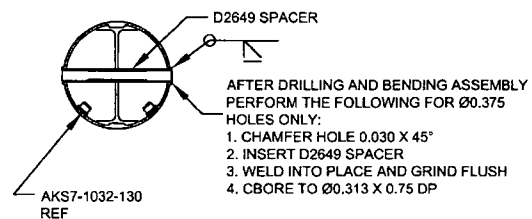
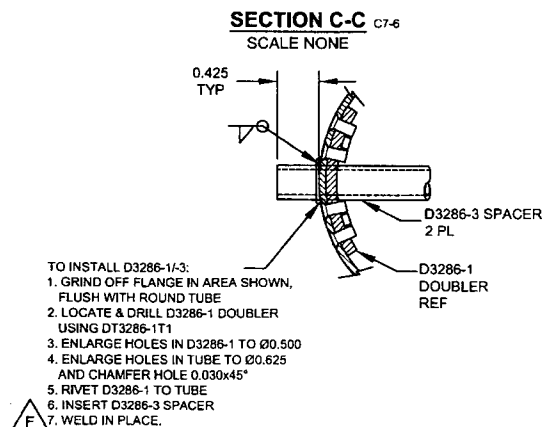


**DETAIL A**  
SCALE 2X  
C2-2  
D7-2  
C2-3  
D7-3  
C2-4  
D7-4  
C2-5  
D6-5

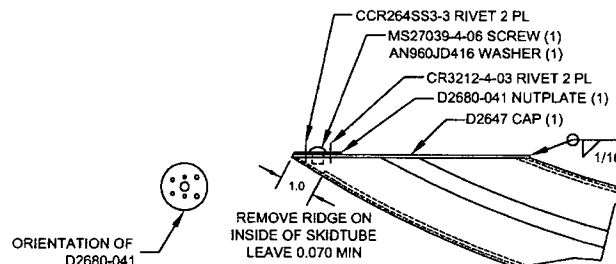
**DETAIL B**  
SCALE 2X  
C3-2  
C3-3



**DETAIL E**  
SCALE 2X  
B2-2  
B2-3  
B1-4  
B1-5



**DETAIL D**  
FOR Ø0.375 HOLES ONLY  
SCALE 3X  
B4-2  
B4-3  
B4-4  
B4-5







**DETAIL F**  
SCALE NONE  
B8-2  
B8-3  
B8-4  
B8-5

- DETAIL F NOTES:**
1. CUT TUBE LEVEL
  2. REMOVE RIDGE ON FWD SIDE
  3. LOCATE D2647 (TRIM AS NECESSARY)
  4. WELD D2647 IN PLACE PER DART QSI 004
  5. GRIND FLUSH
  6. RIVET D2680-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D2680-041 PRIOR TO FINISH

**RELEASED**  
08-09-22-18

DESIGN	DS	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 6 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
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W/O:		WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



NO. 242

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Berclay Elliott  
Job number: 652152  
Part number: 206-642-341  
Description: 206 Skid tube  
Welding Process: Tig ☒ Mig ☐  
Base material: Aluminum  
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual: pass ☒ fail ☐  
Penetration: pass ☒ fail ☐

UNACCEPTABLE

Cracks: pass ☒ fail ☐  
Undercut: pass ☒ fail ☐  
Pin holes: pass ☒ fail ☐  
Overlap (cold lap): pass ☒ fail ☐  
Porosity (surface): pass ☒ fail ☐  
Coloration: pass ☒ fail ☐

Qualifier Pat Evans Date of Test Coupon 11-01-13

Welder Berclay Elliott Date of Test Coupon 11-01-13

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

## Linda Lacelle

---

**From:** David Shepherd <dshepherd@dartaero.com>  
**Sent:** March 18, 2011 11:14 AM  
**To:** 'Marc Bellavance'; 'Linda Lacelle'  
**Subject:** RE: D206-642-441B Skidtubes

Linda/Marc,

I was concerned that we had discovered a chemical incompatibility between the new paint and the clear and that is why we had to re-clear the skidtubes. Scuffing and re-clearing the skidtubes to a matte finish is acceptable to me.

David

**From:** Marc Bellavance [mailto:mbellavance@dartaero.com]  
**Sent:** Friday, March 18, 2011 9:04 AM  
**To:** 'Linda Lacelle'; 'Shepherd, David'  
**Subject:** RE: D206-642-441B Skidtubes

Linda, please call David, he has one or a few questions for you...

**From:** Linda Lacelle [mailto:llacelle@dartaero.com]  
**Sent:** March 18, 2011 9:32 AM  
**To:** 'Marc Bellavance'; 'Shepherd, David'  
**Subject:** RE: D206-642-441B Skidtubes

The skids were already scuffed, and the new clear was applied...these are suppose to ship today

**From:** Marc Bellavance [mailto:mbellavance@dartaero.com]  
**Sent:** March 18, 2011 9:25 AM  
**To:** Shepherd, David  
**Cc:** Lacelle, Linda  
**Subject:** D206-642-441B Skidtubes  
**Importance:** High

Good morning David,

Ian came to see me this morning re Delfleet product line changing to lower VOC's. The supplier was misinformed and sent us the wrong clear. Now the skidtubes must be scuffed and re-cleared. Also, this will affect QSI 005 since the mixture must be changed. A W/O NCR has been filled out by Ian on all the W/O's ( but we need your approval on this prior to signing off them off.

Call me if you have more questions, I'll answer with what I have and know about this issue.

Thanks,

**Marc Bellavance**  
**Technical/Shop Support**